ELSEVIER

Nuclear Instruments and Methods in Physics Research B 145 (1998) 587–594

NIM B
Beam Interactions with Materials & Atoms

Author Index

Afanasyev, V.G., see Weaver, B.A. 145 (1998) 409
Ahlgren, T., see Salonen, R. 145 (1998) 539
Akimov, V.V., see Weaver, B.A. 145 (1998) 409
Alford, T.L., see Lopatin, C.M. 145 (1998) 522
Andrä, H.J., see Ducrée, J. 145 (1998) 509
Andreyashkin, M.Yu., V.V. Kaplin, S.R. Uglov, V.N. Zabaev, K. Yoshida and I. Endo, Generation of hard transition X-rays by relativistic electrons in multilayered metal targets 145 (1998) 203
Apyan, A.B., R.O. Avakian, P.O. Bosted, S.M. Darbinian and K.A. Ispirianj, Circularly polarized photon beams produced by channeled longitudinally polarized electrons 145 (1998) 142
Aramitsu, K., see Takashima, Y. 145 (1998) 25
Artru, X., R. Chehab, K. Honkavaara and A. Variola, Resolution power of optical transition radiation: Theoretical considerations 145 (1998) 160
Artru, X. and P. Rullhusen, Parametric X-rays and diffracted transition radiation in perfect and mosaic crystals 145 (1998) 1
Artru, X., see Baier, V.N. 145 (1998) 221
Avakian, O.R., S.M. Darbinian, K.A. Ispirian and R.K. Ispirian, Proposal for direct investigation of longitudinal density effect 145 (1998) 192
Avakian, R.O., K.A. Ispirian, E.M. Laziev, R.L. Mkrtchyan and V.Ts. Nikogosian, X-ray radiation and optics investigations at the YerPhI linac test facility (LTF) 145 (1998) 239
Avakian, R.O., see Apyan, A.B. 145 (1998) 142

Baier, V.N., A.D. Bukin, T.V. Dimova, V.P. Druzhinin, M.S. Dubrovin, V.B. Golubev, S.I. Serednyakov, V.V. Shary, V.M. Strakhovenko, X. Artru, M. Chevallier, R. Kirsch, J.-C. Poizat, J. Remillieux, R. Chehab, A. Jejcic, J. Silva, J. Major, A.P. Potylitsin and I.E. Vnukov, Set-up optimization for an experimental test of a positron source using channeling 145 (1998) 221
Ballesteros Roselló, F.J., F. Sánchez Martínez and V. Reglero Velasco, The EM imaging reconstruction method in γ-ray astronomy 145 (1998) 469
Barbier, D., see Erramli, H. 145 (1998) 562
Barbu, A., A. Dunlop, A. Hardouin Duparc, G. Jaskierowicz and N. Lorenzelli, Microstructural modifications induced by swift ions in the NiTi intermetallic compound 145 (1998) 354
Baskov, V.A., V.A. Khablo, V.V. Kim, B.A. Luchkov, V.I. Sergienko and V.Yu. Tugaenko, Electromagnetic showers in transparent crystals 145 (1998) 92
Baur, H., see Leya, I. 145 (1998) 449
Bergmaier, A., see Schmelmer, O. 145 (1998) 261
Bessonov, E.G., see Shibata, Y. 145 (1998) 49
Bhattacharya, D., see Mitra, D. 145 (1998) 283
Blondiaux, G., see Erramli, H. 145 (1998) 562
Bochek, G.L., V.I. Kulibaba, N.I. Maslov, V.D. Ovchinnik and B.I. Shramenko, 1.2 GeV electron radiation spectra in thick tungsten single crystals and total radiation losses in tungsten, germanium and silicon single crystals 145 (1998) 146
Bolotovskii, B.M. and A.V. Serov, On representation of electromagnetic radiation in the picture of force lines 145 (1998) 31
Bosted, P.O., see Apyan, A.B. 145 (1998) 142
Boyko, V.I., see Pogrebnjak, A.D. 145 (1998) 373
Bratushka, S., see Pogrebnjak, A.D. 145 (1998) 373
Breese, M.B.H. and P.J.M. Smulders, Phase space analysis of planar channeled MeV protons 145 (1998) 346
Brongersma, H.H., see Fomin, V.M. 145 (1998) 545
Bukin, A.D., see Baier, V.N. 145 (1998) 221
Buschhorn, G., see Morokhovskii, V.V. 145 (1998) 14

0168-583X/98/$ – see front matter © 1998 Elsevier Science B.V. All rights reserved

Buschhorn, G., see Schmidt, K.H. 145 (1998) 8
Buschhorn, G., see Weinmann, P.M. 145 (1998) 113
Busemann, H., see Leya, I. 145 (1998) 449

Cahill, T.A., see Castaneda, C.M. 145 (1998) 553
Carrigan Jr., R.A., see Khokonov, M.Kh. 145 (1998) 133
Castaneda, C.M., T.A. Cahill, J.L. Romero and R.S. King, Depth profiling of hydrogen in amorphous media and applicable to quartz air filters 145 (1998) 553
Cesareo, R., G.E. Gigante and A.L. Hanson, A method for forward energy-dispersive X-ray fluorescence analysis of thin and intermediate samples 145 (1998) 434
Chadderton, L.T., see Dunlop, A. 145 (1998) 532
Chang, G.S., see Winarski, R.P. 145 (1998) 401
Chase, M.B., see Piestrup, M.A. 145 (1998) 230
Chehab, R., see Artru, X. 145 (1998) 160
Chehab, R., see Baier, V.N. 145 (1998) 221
Chesta, M.A., T.S. Plivelic and R.T. Mainardi, Characteristic X-rays induced by electrons and positrons from β-emitting radioisotopes 145 (1998) 459
Chevallier, M., see Baier, V.N. 145 (1998) 221
Childs, A.M., see Tombrello, T.A. 145 (1998) 429
Cremer, J.T., see Piestrup, M.A. 145 (1998) 230
Cucinotta, F.A., see Tripathi, R.K. 145 (1998) 277

Darbinian, S.M., see Apyan, A.B. 145 (1998) 142
Darbinian, S.M., see Avakian, O.R. 145 (1998) 192
Devreese, J.T., see Fomin, V.M. 145 (1998) 545
Dharmarasu, N., B. Sundarakkannan, R. Kesavamoorthy, K.G.M. Nair and J. Kumar, Raman scattering studies in H^+ and He^+ implanted n-GaAs 145 (1998) 395
Dimova, T.V., see Baier, V.N. 145 (1998) 221
Dobrovol'sky, S.N., see Shul'ga, N.F. 145 (1998) 180
Dollinger, G., see Schmelmer, O. 145 (1998) 261
Dose, V., see Küstner, M. 145 (1998) 320
Druzhinin, V.P., see Baier, V.N. 145 (1998) 221
Dubrovin, M.S., see Baier, V.N. 145 (1998) 221
Ducrée, J., J. Mrogenda, E. Reckels and H.J. Andrä, Near-surface K-Auger emission in low-energy scattering of highly charged ions with surfaces 145 (1998) 509
Dunlop, A., G. Jaskierowicz and L.T. Chadderton, High resolution transmission electron microscopy of GeV heavy ion irradiated graphite 145 (1998) 532
Dunlop, A., see Barbu, A. 145 (1998) 354

Eckstein, W., see Küstner, M. 145 (1998) 320
Eckstein, W., see Shulga, V.I. 145 (1998) 492
Ederer, D.L., see Winarski, R.P. 145 (1998) 401
Endo, I., see Andreyashkin, M.Yu. 145 (1998) 203
Endo, I., see Kalinin, B.N. 145 (1998) 209
Endo, I., see Nakayama, K. 145 (1998) 236
Endo, I., see Pivovarov, Yu.L. 145 (1998) 80
Endo, I., see Takashima, Y. 145 (1998) 25
Endo, K., see Winarski, R.P. 145 (1998) 401
Erramli, H., M.A. Misdaq, G. Blondiaux, C. Maddalon-Vinante and D. Barbier, Oxygen profiling in Czochralski-grown silicon substrates submitted to a rapid thermal annealing by using charged particles activation analysis 145 (1998) 562

Fink, D., see Wang, K.-M. 145 (1998) 271
Fomin, S.P., see Shul'ga, N.F. 145 (1998) 73
Fomin, V.M., V.R. Misko, J.T. Devreese and H.H. Brongersma, Comparative analysis of the low-energy He^+ ions scattering on Al and Al_2O_3 surfaces 145 (1998) 545
Freudenberger, J., see Morokhovskii, V.V. 145 (1998) 14

Freudenberger, J., see Schmidt, K.H. 145 (1998) 8
Freudenberger, J., see Weinmann, P.M. 145 (1998) 113
Frey, C.M., see Schmelmer, O. 145 (1998) 261
Fujita, Y., see Shibata, Y. 145 (1998) 49
Fujiwara, M., see Hanamoto, K. 145 (1998) 391
Fukumi, A., see Takashima, Y. 145 (1998) 25

Genz, H., see Morokhovskii, V.V. 145 (1998) 14
Genz, H., see Schmidt, K.H. 145 (1998) 8
Genz, H., see Weinmann, P.M. 145 (1998) 113
Gevorgian, L.A., K.A. Ispirian and R.K. Ispirian, High energy particle channeling in nanotubes 145 (1998) 155
Gevorgian, L.A., see Mkrtchyan, A.R. 145 (1998) 67
Gevorkian, Zh.S., Radiation of a relativistic charged particle in a system of randomly spaced plates 145 (1998) 185
Gigante, G.E., see Cesareo, R. 145 (1998) 434
Gilabert, E., B. Lavielle, S. Neumann, M. Gloris, R. Michel, Th. Schiekel, F. Sudbrock and U. Herpers, Cross sections for the proton-induced production of krypton isotopes from Rb, Sr, Y and Zr for energies up to 1600 MeV 145 (1998) 293
Gloris, M., see Gilabert, E. 145 (1998) 293
Gloris, M., see Leya, I. 145 (1998) 449
Golubev, V.B., see Baier, V.N. 145 (1998) 221
Goto, K., see Kalinin, B.N. 145 (1998) 209
Goto, K., see Takashima, Y. 145 (1998) 25
Grigorian, L.Sh., A.H. Mkrtchyan and A.A. Saharian, Transition radiation in an ultrasonic superlattice . . 145 (1998) 197
Grigorian, L.Sh., see Mkrtchyan, A.R. 145 (1998) 67
Grynenko, A.A., see Shul'ga, N.F. 145 (1998) 128
Gurbich, A.F., Evaluation of non-Rutherford proton elastic scattering cross section for silicon (*Letter to the Editor*) 145 (1998) 578

Hanamoto, K., M. Sasaki, T. Miyashita, Y. Kido, Y. Nakayama, Y. Kawamoto, M. Fujiwara and R. Kaigawa, Annealing effects on the hardening of electroless plated Ni–P layer by boron implantation 145 (1998) 391
Hanson, A.L., see Cesareo, R. 145 (1998) 434
Hardouin Duparc, A., see Barbu, A. 145 (1998) 354
Hartman, J.W., see Tombrello, T.A. 145 (1998) 429
Henkel, M. and H.M. Urbassek, Ta cluster bombardment of graphite: molecular dynamics study of penetration and damage 145 (1998) 503
Herpers, U., see Gilabert, E. 145 (1998) 293
Herpers, U., see Leya, I. 145 (1998) 449
Honkavaara, K., see Artru, X. 145 (1998) 160
Horiguchi, T., see Takashima, Y. 145 (1998) 25
Hu, B. and Z. Qi, Stopping powers of Pd, Lu and Gd for 1.0–5.0 MeV ^{7}Li ions 145 (1998) 288

Ida, T., see Winarski, R.P. 145 (1998) 401
Ikezawa, M., see Shibata, Y. 145 (1998) 49
Inoue, Y., see Shibata, Y. 145 (1998) 49
Ishi, K., see Shibata, Y. 145 (1998) 49
Ispirian, K.A., see Avakian, O.R. 145 (1998) 192
Ispirian, K.A., see Avakian, R.O. 145 (1998) 239
Ispirian, K.A., see Gevorgian, L.A. 145 (1998) 155
Ispirian, R.K., see Avakian, O.R. 145 (1998) 192
Ispirian, R.K., see Gevorgian, L.A. 145 (1998) 155
Ispirianj, K.A., see Apyan, A.B. 145 (1998) 142
Isshiki, T., see Kalinin, B.N. 145 (1998) 209
Isshiki, T., see Pivovarov, Yu.L. 145 (1998) 80
Isshiki, T., see Takashima, Y. 145 (1998) 25

Jaskierowicz, G., see Barbu, A. 145 (1998) 354
Jaskierowicz, G., see Dunlop, A. 145 (1998) 532

Jejcic, A., see Baier, V.N. 145 (1998) 221

Kaigawa, R., see Hanamoto, K. 145 (1998) 391
Kalinin, B.N., G.A. Naumenko, A.P. Potylitsin, V.A. Verzilov, I.E. Vnukov, K. Yoshida, K. Goto, I. Endo, T. Isshiki, T. Kondo, K. Matsukado, T. Takashima, T. Takahashi, H. Okuno and K. Nakayama, Investigation of positron generation by relativistic electrons in aligned crystals 145 (1998) 209
Kaplin, V., see Nakayama, K. 145 (1998) 236
Kaplin, V., see Takashima, Y. 145 (1998) 25
Kaplin, V.V., L.W. Lombardo, A.A. Mihal'chuk, M.A. Piestrup and S.R. Uglov, X-ray production simulation of an electron beam recycled through a betatron's internal target 145 (1998) 244
Kaplin, V.V. and S.R. Uglov, Original and diffracted transition radiation for diagnostics of relativistic electron beams 145 (1998) 253
Kaplin, V.V., see Andreyashkin, M.Yu. 145 (1998) 203
Karsch, S., see Schmelmer, O. 145 (1998) 261
Kawamoto, Y., see Hanamoto, K. 145 (1998) 391
Kesavamoorthy, R., see Dharmarasu, N. 145 (1998) 395
Keshev, R.M., see Khokonov, A.Kh. 145 (1998) 54
Kezerashvili, G.Ya., A.M. Milov, N.Yu. Muchnoi and A.P. Usov, A Compton source of high energy polarized tagged γ-ray beams. The ROKK-1M facility 145 (1998) 40
Khablo, V.A., see Baskov, V.A. 145 (1998) 92
Khachatryan, B.V., see Mkrtchyan, A.R. 145 (1998) 67
Khokonov, A.Kh., M.Kh. Khokonov and R.M. Keshev, High intensity limit in electron–laser beam interaction 145 (1998) 54
Khokonov, M.Kh. and R.A.CarriganJr., The relationship of channeling radiation to Thomson scattering and the relative efficiency of X-ray production by intense electron beams 145 (1998) 133
Khokonov, M.Kh., see Khokonov, A.Kh. 145 (1998) 54
Kholmetskii, A.L., see Muravsky, V.A. 145 (1998) 573
Kido, Y., see Hanamoto, K. 145 (1998) 391
Kim, V.V., see Baskov, V.A. 145 (1998) 92
King, R.S., see Castaneda, C.M. 145 (1998) 553
Kirsch, R., see Baier, V.N. 145 (1998) 221
Kobayashi, K., see Shibata, Y. 145 (1998) 49
Kobayashi, T., see Takashima, Y. 145 (1998) 25
Kondo, T., see Kalinin, B.N. 145 (1998) 209
Kondo, T., see Takashima, Y. 145 (1998) 25
Kotthaus, R., see Morokhovskii, V.V. 145 (1998) 14
Kotthaus, R., see Schmidt, K.H. 145 (1998) 8
Kotthaus, R., see Weinmann, P.M. 145 (1998) 113
Kuan, M., see Lopatin, C.M. 145 (1998) 522
Kulibaba, V.I., see Bochek, G.L. 145 (1998) 146
Kumar, J., see Dharmarasu, N. 145 (1998) 395
Kunashenko, Yu.P. and Yu.L. Pivovarov, Temperature effect for coherent creation of electron–positron pairs in a crystal by high-energy photons 145 (1998) 106
Kunashenko, Yu.P., see Pivovarov, Yu.L. 145 (1998) 80
Kuri, G., see Mitra, D. 145 (1998) 283
Kurmaev, E.Z., see Winarski, R.P. 145 (1998) 401
Küstner, M., W. Eckstein, V. Dose and J. Roth, The influence of surface roughness on the angular dependence of the sputter yield 145 (1998) 320

Laursen, T., see Lopatin, C.M. 145 (1998) 522
Lavielle, B., see Gilabert, E. 145 (1998) 293
Laziev, E.M., see Avakian, R.O. 145 (1998) 239
Leya, I., H. Busemann, H. Baur, R. Wieler, M. Gloris, S. Neumann, R. Michel, F. Sudbrock and U. Herpers, Cross sections for the proton-induced production of He and Ne isotopes from magnesium, aluminum and silicon 145 (1998) 449
Liu, Y.-G., see Wang, K.-M. 145 (1998) 271
Lombardo, L.W., see Kaplin, V.V. 145 (1998) 244
Lombardo, L.W., see Piestrup, M.A. 145 (1998) 230

Lopatin, C.M., T.L. Alford, V.B. Pizziconi, M. Kuan, T. Laursen, Ion-beam densification of hydroxyapatite thin films 145 (1998) 522
Lorenzelli, N., see Barbu, A. 145 (1998) 354
Lu, F., see Wang, K.-M. 145 (1998) 271
Luchkov, B.A., see Baskov, V.A. 145 (1998) 92

Maddalon-Vinante, C., see Erramli, H. 145 (1998) 562
Mainardi, R.T., see Chesta, M.A. 145 (1998) 459
Major, J., see Baier, V.N. 145 (1998) 221
Maruyama, X.K., see Piestrup, M.A. 145 (1998) 230
Maslov, N.I., see Bochek, G.L. 145 (1998) 146
Matsukado, K., see Kalinin, B.N. 145 (1998) 209
Matsukado, K., see Takashima, Y. 145 (1998) 25
Matsuyama, T., see Shibata, Y. 145 (1998) 49
Meng, M.-Q., see Wang, K.-M. 145 (1998) 271
Michel, R., see Gilabert, E. 145 (1998) 293
Michel, R., see Leya, I. 145 (1998) 449
Mihal'chuk, A.A., see Kaplin, V.V. 145 (1998) 244
Milov, A.M., see Kezerashvili, G.Ya. 145 (1998) 40
Misdaq, M.A., see Erramli, H. 145 (1998) 562
Misko, V.R., see Fomin, V.M. 145 (1998) 545
Mitra, D., M. Sarkar, D. Bhattacharya, P. Sen and G. Kuri, Measurement of the anisotropy parameters for the M X-rays of gold induced by 3–9 MeV carbon ions 145 (1998) 283
Miyashita, T., see Hanamoto, K. 145 (1998) 391
Mkrtchyan, A.H., see Grigorian, L.Sh. 145 (1998) 197
Mkrtchyan, A.R., L.A. Gevorgian, L.Sh. Grigorian, B.V. Khachatryan and A.A. Saharian, Coherent diffraction radiation from an electron bunch 145 (1998) 67
Mkrtchyan, R.L., see Avakian, R.O. 145 (1998) 239
Morokhovskii, V.V., see Schmidt, K.H. 145 (1998) 8
Moewes, A., see Winarski, R.P. 145 (1998) 401
Morokhovskii, V.V., J. Freudenberger, H. Genz, A. Richter, K.H. Schmidt, G. Buschhorn, R. Kotthaus, M. Rzepka and P.M. Weinmann, Polarization of parametric X radiation 145 (1998) 14
Morokhovskii, V.V., see Weinmann, P.M. 145 (1998) 113
Mrogenda, J., see Ducrée, J. 145 (1998) 509
Mrowka, S., see Piestrup, M.A. 145 (1998) 230
Muchnoi, N.Yu., see Kezerashvili, G.Ya. 145 (1998) 40
Muravsky, V.A., S.A. Tolstov, A.L. Kholmetskii, Comparison of the least squares and the maximum likelihood estimators for gamma-spectrometry 145 (1998) 573
Muto, M., see Takashima, Y. 145 (1998) 25

Nair, K.G.M., see Dharmarasu, N. 145 (1998) 395
Nakayama, K., M. Sekimura, I. Yanase, I. Endo, Y. Takashima, V. Kaplin and A. Potylitsin, Development of a periodically structured monocrystalline target of Si for X-ray emission 145 (1998) 236
Nakayama, K., see Kalinin, B.N. 145 (1998) 209
Nakayama, K., see Takashima, Y. 145 (1998) 25
Nakayama, Y., see Hanamoto, K. 145 (1998) 391
Nasonov, N., G. Pokhil, V. Voronov and P. Zhukova, X-ray coherent bremsstrahlung by low energy electrons 145 (1998) 150
Nasonov, N.N., Collective effects in the polarization bremsstrahlung of relativistic electrons in condensed media 145 (1998) 19
Naumenko, G.A., see Kalinin, B.N. 145 (1998) 209
Neumann, S., see Gilabert, E. 145 (1998) 293
Neumann, S., see Leya, I. 145 (1998) 449
Nguyen, V.T. and K. Wien, Secondary electron emission from various metals and CsI bombarded by heavy molecular ions 145 (1998) 332
Nikogosian, V.Ts., see Avakian, R.O. 145 (1998) 239
Nitta, H., see Takashima, Y. 145 (1998) 25

Okazaki, Y., see Takashima, Y. 145 (1998) 25

Okuno, H., see Kalinin, B.N. 145 (1998) 209
Ono, S., see Shibata, Y. 145 (1998) 49
Ovchinnik, V.D., see Bochek, G.L. 145 (1998) 146

Padhi, H.C., see Raj, S. 145 (1998) 485
Piestrup, M.A., M.W. Powell, S. Mrowka, J.T. Cremer, L.W. Lombardo, M.B. Chase, D. Snyder, H. Rietdyk and X.K. Maruyama, A transition radiation source with a grazing angle optic for step and scan lithography 145 (1998) 230
Piestrup, M.A., see Kaplin, V.V. 145 (1998) 244
Pivin, J.-C., see Winarski, R.P. 145 (1998) 401
Pivovarov, Yu.L., Yu.P. Kunashenko, I. Endo and T. Isshiki, On the possible experiments on coherent production of relativistic positronium in a crystal 145 (1998) 80
Pivovarov, Yu.L., Coherent excitation of hydrogen-like relativistic heavy ions in a crystal: Structure of electronic levels of an ion and resonance width 145 (1998) 96
Pivovarov, Yu.L., see Kunashenko, Yu.P. 145 (1998) 106
Pizziconi, V.B., see Lopatin, C.M. 145 (1998) 522
Plivelic, T.S., see Chesta, M.A. 145 (1998) 459
Pogrebnjak, A.D., S. Bratushka, V.I. Boyko, I.V. Shamanin and Yu.V. Tsvintarnaya, A review of mixing processes in Ta/Fe and Mo/Fe systems treated by high current electron beams 145 (1998) 373
Poizat, J.-C., see Baier, V.N. 145 (1998) 221
Pokhil, G., see Nasonov, N. 145 (1998) 150
Polasik, M., see Raj, S. 145 (1998) 485
Potylitsin, A., see Nakayama, K. 145 (1998) 236
Potylitsin, A., see Takashima, Y. 145 (1998) 25
Potylitsin, A.P., see Baier, V.N. 145 (1998) 221
Potylitsin, A.P., see Kalinin, B.N. 145 (1998) 209
Potylitsyn, A.P., Smith–Purcell effect as resonant diffraction radiation 145 (1998) 60
Potylitsyn, A.P., Transition radiation and diffraction radiation. Similarities and differences 145 (1998) 169
Powell, M.W., see Piestrup, M.A. 145 (1998) 230
Price, P.B., see Weaver, B.A. 145 (1998) 409

Qi, Z., see Hu, B. 145 (1998) 288

Räisänen, J., see Salonen, R. 145 (1998) 539
Raj, S., H.C. Padhi and M. Polasik, Influence of chemical effect on the Kβ-to-Kα X-ray intensity ratios of Ti, V, Cr and Fe in TiC, VC, CrB, CrB_2 and FeB 145 (1998) 485
Rauhala, E., see Salonen, R. 145 (1998) 539
Reckels, E., see Ducrée, J. 145 (1998) 509
Reglero Velasco, V., see Ballesteros Roselló, F.J. 145 (1998) 469
Remillieux, J., see Baier, V.N. 145 (1998) 221
Richter, A., see Morokhovskii, V.V. 145 (1998) 14
Richter, A., see Schmidt, K.H. 145 (1998) 8
Richter, A., see Weinmann, P.M. 145 (1998) 113
Rietdyk, H., see Piestrup, M.A. 145 (1998) 230
Romero, J.L., see Castaneda, C.M. 145 (1998) 553
Roth, J., see Küstner, M. 145 (1998) 320
Rullhusen, P., see Artru, X. 145 (1998) 1
Rzepka, M., see Morokhovskii, V.V. 145 (1998) 14
Rzepka, M., see Schmidt, K.H. 145 (1998) 8
Rzepka, M., see Weinmann, P.M. 145 (1998) 113

Saharian, A.A., see Grigorian, L.Sh. 145 (1998) 197
Saharian, A.A., see Mkrtchyan, A.R. 145 (1998) 67
Salonen, R., A. Seppälä, T. Ahlgren, E. Rauhala and J. Räisänen, Characteristics of PIXE channeling and its application to ZnSe thin films 145 (1998) 539
Sánchez Martínez, F., see Ballesteros Roselló, F.J. 145 (1998) 469
Sánchez, H.J., Energy dependence of X-ray capillary performance 145 (1998) 567
Sarkar, M., see Mitra, D. 145 (1998) 283

Sasaki, M., see Hanamoto, K. 145 (1998) 391
Sasaki, S., see Shibata, Y. 145 (1998) 49
Schiekel, Th., see Gilabert, E. 145 (1998) 293
Schmelmer, O., G. Dollinger, C.M. Frey, A. Bergmaier and S. Karsch, Energy straggling of 60 MeV $^{58}Ni^{q+}$ ions in thin carbon foils and gases 145 (1998) 261
Schmidt, K.H., G. Buschhorn, R. Kotthaus, M. Rzepka, P.M. Weinmann, V.V. Morokhovskii, J. Freudenberger, H. Genz and A. Richter, Measurement of the linear polarization of Parametric X-radiation 145 (1998) 8
Schmidt, K.H., see Morokhovskii, V.V. 145 (1998) 14
Schmidt, K.H., see Weinmann, P.M. 145 (1998) 113
Sekimura, M., see Nakayama, K. 145 (1998) 236
Sen, P., see Mitra, D. 145 (1998) 283
Seppälä, A., see Salonen, R. 145 (1998) 539
Serednyakov, S.I., see Baier, V.N. 145 (1998) 221
Sergienko, V.I., see Baskov, V.A. 145 (1998) 92
Serov, A.V., see Bolotovskii, B.M. 145 (1998) 31
Shamanin, I.V., see Pogrebnjak, A.D. 145 (1998) 373
Shamin, S.N., see Winarski, R.P. 145 (1998) 401
Shary, V.V., see Baier, V.N. 145 (1998) 221
Shen, D.-Y., see Wang, K.-M. 145 (1998) 271
Shi, B.-R., see Wang, K.-M. 145 (1998) 271
Shibata, Y., K. Ishi, S. Ono, Y. Inoue, S. Sasaki, M. Ikezawa, T. Takahashi, T. Matsuyama, K. Kobayashi, Y. Fujita and E.G. Bessonov, Prebunched free electron laser with a broadband spectrum 145 (1998) 49
Shramenko, B.I., see Bochek, G.L. 145 (1998) 146
Shul'ga, N.F., A.A. Grynenko and V.I. Truten', Simulating spectrum and polarization of coherent radiation by relativistic electrons in crystals 145 (1998) 128
Shul'ga, N.F., S.N. Dobrovol'sky and V.G. Syshchenko, On transition infrared radiation by relativistic electrons in a thin layer of matter 145 (1998) 180
Shul'ga, N.F. and S.P. Fomin, Bremsstrahlung of ultrarelativistic electrons in a thin layer of substance . . . 145 (1998) 73
Shulga, V.I. and W. Eckstein, Depth of origin of sputtered atoms for elemental targets 145 (1998) 492
Silva, J., see Baier, V.N. 145 (1998) 221
Smulders, P.J.M., see Breese, M.B.H. 145 (1998) 346
Snyder, D., see Piestrup, M.A. 145 (1998) 230
Strakhovenko, V.M., A practical method for calculation of photon emission and pair production probabilities in crystals 145 (1998) 120
Strakhovenko, V.M., see Baier, V.N. 145 (1998) 221
Sudbrock, F., see Gilabert, E. 145 (1998) 293
Sudbrock, F., see Leya, I. 145 (1998) 449
Sundarakkannan, B., see Dharmarasu, N. 145 (1998) 395
Syshchenko, V.G., see Shul'ga, N.F. 145 (1998) 180

Takahashi, T., see Kalinin, B.N. 145 (1998) 209
Takahashi, T., see Shibata, Y. 145 (1998) 49
Takahashi, T., see Takashima, Y. 145 (1998) 25
Takashima, T., see Kalinin, B.N. 145 (1998) 209
Takashima, Y., K. Aramitsu, I. Endo, A. Fukumi, K. Goto, T. Horiguchi, T. Isshiki, V. Kaplin, T. Kobayashi, T. Kondo, K. Matsukado, M. Muto, K. Nakayama, H. Nitta, Y. Okazaki, A. Potylitsin, T. Takahashi and K. Yoshida, Observation of monochromatic and tunable hard X radiation from stratified Si single crystals 145 (1998) 25
Takashima, Y., see Nakayama, K. 145 (1998) 236
Taratin, A.M., Dechanneling of relativistic protons and nuclei in straight and bent crystals. The role of rechanneling 145 (1998) 102
Tolstov, S.A., see Muravsky, V.A. 145 (1998) 573
Tombrello, T.A., A.M. Childs and J.W. Hartman, A model for MeV C_n track damage in YIG 145 (1998) 429
Tripathi, R.K., J.W. Wilson and F.A. Cucinotta, Nuclear absorption cross sections using medium modified nucleon–nucleon amplitudes 145 (1998) 277
Truten', V.I., see Shul'ga, N.F. 145 (1998) 128
Tsvintarnaya, Yu.V., see Pogrebnjak, A.D. 145 (1998) 373
Tugaenko, V.Yu., see Baskov, V.A. 145 (1998) 92

Uglov, S.R., see Andreyashkin, M.Yu. 145 (1998) 203
Uglov, S.R., see Kaplin, V.V. 145 (1998) 244
Uglov, S.R., see Kaplin, V.V. 145 (1998) 253
Urbassek, H.M., see Henkel, M. 145 (1998) 503
Usov, A.P., see Kezerashvili, G.Ya. 145 (1998) 40

Variola, A., see Artru, X. 145 (1998) 160
Verzilov, V.A., see Kalinin, B.N. 145 (1998) 209
Vnukov, I.E., see Baier, V.N. 145 (1998) 221
Vnukov, I.E., see Kalinin, B.N. 145 (1998) 209
Voronov, V., see Nasonov, N. 145 (1998) 150

Wang, K.-M., F. Lu, M.-Q. Meng, B.-R. Shi, D.-Y. Shen, Y.-G. Liu and D. Fink, Depth distribution of rare earth ions implanted into $KTiOPO_4$ determined by the Rutherford backscattering technique 145 (1998) 271
Weaver, B.A., A.J. Westphal, P.B. Price, V.G. Afanasyev and V.V. Akimov, Performance of the Ultraheavy Collector of the Trek experiment 145 (1998) 409
Weinmann, P.M., M. Rzepka, G. Buschhorn, R. Kotthaus, K.H. Schmidt, J. Freudenberger, H. Genz, V.V. Morokhovskii and A. Richter, Spectral-angular and polarization properties of near-axis channeling radiation of 31 MeV electrons in silicon 145 (1998) 113
Weinmann, P.M., see Morokhovskii, V.V. 145 (1998) 14
Weinmann, P.M., see Schmidt, K.H. 145 (1998) 8
Westphal, A.J., see Weaver, B.A. 145 (1998) 409
Whang, C.N., see Winarski, R.P. 145 (1998) 401
Wieler, R., see Leya, I. 145 (1998) 449
Wien, K., see Nguyen, V.T. 145 (1998) 332
Wilson, J.W., see Tripathi, R.K. 145 (1998) 277
Winarski, R.P., D.L. Ederer, J.-C. Pivin, E.Z. Kurmaev, S.N. Shamin, A. Moewes, G.S. Chang, C.N. Whang, K. Endo and T. Ida, Soft X-ray fluorescence measurements of irradiated polymer films 145 (1998) 401

Yanase, I., see Nakayama, K. 145 (1998) 236
Yoshida, K., see Andreyashkin, M.Yu. 145 (1998) 203
Yoshida, K., see Kalinin, B.N. 145 (1998) 209
Yoshida, K., see Takashima, Y. 145 (1998) 25

Zabaev, V.N., see Andreyashkin, M.Yu. 145 (1998) 203
Zhukova, P., see Nasonov, N. 145 (1998) 150

ELSEVIER

Nuclear Instruments and Methods in Physics Research B 145 (1998) 595–597

NIM B
Beam Interactions with Materials & Atoms

Subject index

Basic Data for Materials Modification and Analysis

On representation of electromagnetic radiation in the picture of force lines, B.M. Bolotovskii and A.V. Serov . 145 (1998) 31
Smith–Purcell effect as resonant diffraction radiation, A.P. Potylitsyn 145 (1998) 60
Coherent diffraction radiation from an electron bunch, A.R. Mkrtchyan, L.A. Gevorgian, L.Sh. Grigorian, B.V. Khachatryan and A.A. Saharian 145 (1998) 67
Energy straggling of 60 MeV $^{58}Ni^{q+}$ ions in thin carbon foils and gases, O. Schmelmer, G. Dollinger, C.M. Frey, A. Bergmaier and S. Karsch 145 (1998) 261
Depth distribution of rare earth ions implanted into $KTiOPO_4$ determined by the Rutherford backscattering technique, K.-M. Wang, F. Lu, M.-Q. Meng, B.-R. Shi, D.-Y. Shen, Y.-G. Liu and D. Fink 145 (1998) 271
Nuclear absorption cross sections using medium modified nucleon–nucleon amplitudes, R.K. Tripathi, J.W. Wilson and F.A. Cucinotta 145 (1998) 277
Measurement of the anisotropy parameters for the M X-rays of gold induced by 3–9 MeV carbon ions, D. Mitra, M. Sarkar, D. Bhattacharya, P. Sen and G. Kuri 145 (1998) 283
Stopping powers of Pd, Lu and Gd for 1.0–5.0 MeV ^{7}Li ions, B. Hu and Z. Qi 145 (1998) 288
Cross sections for the proton-induced production of krypton isotopes from Rb, Sr, Y, and Zr for energies up to 1600 MeV, E. Gilabert, B. Lavielle, S. Neumann, M. Gloris, R. Michel, Th. Schiekel, F. Sudbrock and U. Herpers 145 (1998) 293
Influence of chemical effect on the Kβ-to-Kα X-ray intensity ratios of Ti, V, Cr and Fe in TiC, VC, CrB, CrB_2 and FeB, S. Raj, H.C. Padhi and M. Polasik 145 (1998) 485
Evaluation of non-Rutherford proton elastic scattering cross section for silicon, A.F. Gurbich (*Letter to the Editor*) 145 (1998) 578

Atomic Collisions in Solids

Parametric X-rays and diffracted transition radiation in perfect and mosaic crystals, X. Artru and P. Rullhusen 145 (1998) 1
Measurement of the linear polarization of Parametric X-radiation, K.H. Schmidt, G. Buschhorn, R. Kotthaus, M. Rzepka, P.M. Weinmann, V.V. Morokhovskii, J. Freudenberger, H. Genz and A. Richter 145 (1998) 8
Polarization of parametric X radiation, V.V. Morokhovskii, J. Freudenberger, H. Genz, A. Richter, K.H. Schmidt, G. Buschhorn, R. Kotthaus, M. Rzepka and P.M. Weinmann 145 (1998) 14
Collective effects in the polarization bremsstrahlung of relativistic electrons in condensed media, N.N. Nasonov 145 (1998) 19
Observation of monochromatic and tunable hard X radiation from stratified Si single crystals, Y. Takashima, K. Aramitsu, I. Endo, A. Fukumi, K. Goto, T. Horiguchi, T. Isshiki, V. Kaplin, T. Kobayashi, T. Kondo, K. Matsukado, M. Muto, K. Nakayama, H. Nitta, Y. Okazaki, A. Potylitsin, T. Takahashi and K. Yoshida . 145 (1998) 25
Bremsstrahlung of ultrarelativistic electrons in a thin layer of substance, N.F. Shul'ga and S.P. Fomin 145 (1998) 73
On the possible experiments on coherent production of relativistic positronium in a crystal, Yu.L. Pivovarov, Yu.P. Kunashenko, I. Endo and T. Isshiki 145 (1998) 80
Electromagnetic showers in transparent crystals, V.A. Baskov, V.A. Khablo, V.V. Kim, B.A. Luchkov, V.I. Sergienko and V.Yu. Tugaenko 145 (1998) 92
Coherent excitation of hydrogen-like relativistic heavy ions in a crystal: Structure of electronic levels of an ion and resonance width, Yu.L. Pivovarov 145 (1998) 96
Dechanneling of relativistic protons and nuclei in straight and bent crystals. The role of rechanneling, A.M. Taratin 145 (1998) 102
Temperature effect for coherent creation of electron–positron pairs in a crystal by high-energy photons, Yu.P. Kunashenko and Yu.L. Pivovarov 145 (1998) 106

0168-583X/98/$ – see frontmatter © 1998 Elsevier Science B.V. All rights reserved

Spectral-angular and polarization properties of near-axis channeling radiation of 31 MeV electrons in silicon, P.M. Weinmann, M. Rzepka, G. Buschhorn, R. Kotthaus, K.H. Schmidt, J. Freudenberger, H. Genz, V.V. Morokhovskii and A. Richter 145 (1998) 113
A practical method for calculation of photon emission and pair production probabilities in crystals, V.M. Strakhovenko 145 (1998) 120
Simulating spectrum and polarization of coherent radiation by relativistic electrons in crystals, N.F. Shul'ga, A.A. Grynenko and V.I. Truten' 145 (1998) 128
The relationship of channeling radiation to Thomson scattering and the relative efficiency of X-ray production by intense electron beams, M.Kh. Khokonov and R.A. Carrigan Jr. 145 (1998) 133
Circularly polarized photon beams produced by channeled longitudinally polarized electrons, A.B. Apyan, R.O. Avakian, P.O. Bosted, S.M. Darbinian and K.A. Ispirian 145 (1998) 142
1.2 GeV electron radiation spectra in thick tungsten single crystals and total radiation losses in tungsten, germanium and silicon single crystals, G.L. Bochek, V.I. Kulibaba, N.I. Maslov, V.D. Ovchinnik and B.I. Shramenko 145 (1998) 146
X-ray coherent bremsstrahlung by low energy electrons, N. Nasonov, G. Pokhil, V. Voronov and P. Zhukova 145 (1998) 150
High energy particle channeling in nanotubes, L.A. Gevorgian, K.A. Ispirian and R.K. Ispirian 145 (1998) 155
Resolution power of optical transition radiation: Theoretical considerations, X. Artru, R. Chehab, K. Honkavaara and A. Variola 145 (1998) 160
Transition radiation and diffraction radiation. Similarities and differences, A.P. Potylitsyn 145 (1998) 169
On transition infrared radiation by relativistic electrons in a thin layer of matter, N.F. Shul'ga, S.N. Dobrovol'sky and V.G. Syshchenko 145 (1998) 180
Radiation of a relativistic charged particle in a system of randomly spaced plates, Zh.S. Gevorkian 145 (1998) 185
Proposal for direct investigation of longitudinal density effect, O.R. Avakian, S.M. Darbinian, K.A. Ispirian and R.K. Ispirian 145 (1998) 192
Transition radiation in an ultrasonic superlattice, L.Sh. Grigorian, A.H. Mkrtchyan and A.A. Saharian 145 (1998) 197
Generation of hard transition X-rays by relativistic electrons in multilayered metal targets, M.Yu. Andreyashkin, V.V. Kaplin, S.R. Uglov, V.N. Zabaev, K. Yoshida and I. Endo 145 (1998) 203
Investigation of positron generation by relativistic electrons in aligned crystals, B.N. Kalinin, G.A. Naumenko, A.P. Potylitsin, V.A. Verzilov, I.E. Vnukov, K. Yoshida, K. Goto, I. Endo, T. Isshiki, T. Kondo, K. Matsukado, T. Takashima, T. Takahashi, H. Okuno and K. Nakayama 145 (1998) 209
Set-up optimization for an experimental test of a positron source using channeling, V.N. Baier, A.D. Bukin, T.V. Dimova, V.P. Druzhinin, M.S. Dubrovin, V.B. Golubev, S.I. Serednyakov, V.V. Shary, V.M. Strakhovenko, X. Artru, M. Chevallier, R. Kirsch, J.-C. Poizat, J. Remillieux, R. Chehab, A. Jejcic, J. Silva, J. Major, A.P. Potylitsin and I.E. Vnukov 145 (1998) 221
The influence of surface roughness on the angular dependence of the sputter yield, M. Küstner, W. Eckstein, V. Dose and J. Roth 145 (1998) 320
Secondary electron emission from various metals and CsI bombarded by heavy molecular ions, V.T. Nguyen and K. Wien 145 (1998) 332
Phase space analysis of planar channeled MeV protons, M.B.H. Breese and P.J.M. Smulders 145 (1998) 346
Depth of origin of sputtered atoms for elemental targets, V.I. Shulga and W. Eckstein 145 (1998) 492
Ta cluster bombardment of graphite: molecular dynamics study of penetration and damage, M. Henkel and H.M. Urbassek 145 (1998) 503
Near-surface K-Auger emission in low-energy scattering of highly charged ions with surfaces, J. Ducrée, J. Mrogenda, E. Reckels and H.J. Andrä 145 (1998) 509

Ion Beam Modification of Materials

Microstructural modifications induced by swift ions in the NiTi intermetallic compound, A. Barbu, A. Dunlop, A. Hardouin Duparc, G. Jaskierowicz and N. Lorenzelli 145 (1998) 354
A review of mixing processes in Ta/Fe and Mo/Fe systems treated by high current electron beams, A.D. Pogrebnjak, S. Bratushka, V.I. Boyko, I.V. Shamanin and Yu.V. Tsvintarnaya 145 (1998) 373
Annealing effects on the hardening of electroless plated Ni–P layer by boron implantation, K. Hanamoto, M. Sasaki, T. Miyashita, Y. Kido, Y. Nakayama, Y. Kawamoto, M. Fujiwara and R. Kaigawa 145 (1998) 391
Raman scattering studies in H^+ and He^+ implanted n-GaAs, N. Dharmarasu, B. Sundarakkannan, R. Kesavamoorthy, K.G.M. Nair and J. Kumar 145 (1998) 395
Soft X-ray fluorescence measurements of irradiated polymer films, R.P. Winarski, D.L. Ederer, J.-C. Pivin, E.Z. Kurmaev, S.N. Shamin, A. Moewes, G.S. Chang, C.N. Whang, K. Endo and T. Ida 145 (1998) 401

Ion-beam densification of hydroxyapatite thin films, C.M. Lopatin, T.L. Alford, V.B. Pizziconi, M. Kuan, T. Laursen 145 (1998) 522

Effects of Radiation

Performance of the Ultraheavy Collector of the Trek experiment, B.A. Weaver, A.J. Westphal, P.B. Price, V.G. Afanasyev and V.V. Akimov 145 (1998) 409
A model for MeV C_n track damage in YIG, T.A. Tombrello, A.M. Childs and J.W. Hartman 145 (1998) 429
High resolution transmission electron microscopy of GeV heavy ion irradiated graphite, A. Dunlop, G. Jaskierowicz and L.T. Chadderton 145 (1998) 532

Analysis of Materials

A method for forward energy-dispersive X-ray fluorescence analysis of thin and intermediate samples, R. Cesareo, G.E. Gigante and A.L. Hanson 145 (1998) 434
Characteristics of PIXE channeling and its application to ZnSe thin films, R. Salonen, A. Seppälä, T. Ahlgren, E. Rauhala and J. Räisänen 145 (1998) 539
Comparative analysis of the low-energy He^+ ions scattering on Al and Al_2O_3 surfaces, V.M. Fomin, V.R. Misko, J.T. Devreese and H.H. Brongersma 145 (1998) 545
Depth profiling of hydrogen in amorphous media and applicable to quartz air filters, C.M. Castaneda, T.A. Cahill, J.L. Romero and R.S. King 145 (1998) 553
Oxygen profiling in Czochralski-grown silicon substrates submitted to a rapid thermal annealing by using charged particles activation analysis, H. Erramli, M.A. Misdaq, G. Blondiaux, C. Maddalon-Vinante and D. Barbier 145 (1998) 562

Ion Sources and Beam Optics

Cross sections for the proton-induced production of He and Ne isotopes from magnesium, aluminum, and silicon, I. Leya, H. Busemann, H. Baur, R. Wieler, M. Gloris, S. Neumann, R. Michel, F. Sudbrock and U. Herpers 145 (1998) 449
Energy dependence of X-ray capillary performance, H.J. Sánchez 145 (1998) 567

Experimental Methods and Equipment

A Compton source of high energy polarized tagged γ-ray beams. The ROKK-1M facility, G.Ya. Kezerashvili, A.M. Milov, N.Yu. Muchnoi and A.P. Usov 145 (1998) 40
Prebunched free electron laser with a broadband spectrum, Y. Shibata, K. Ishi, S. Ono, Y. Inoue, S. Sasaki, M. Ikezawa, T. Takahashi, T. Matsuyama, K. Kobayashi, Y. Fujita and E.G. Bessonov 145 (1998) 49
High intensity limit in electron–laser beam interaction, A.Kh. Khokonov, M.Kh. Khokonov and R.M. Keshev 145 (1998) 54
A transition radiation source with a grazing angle optic for step and scan lithography, M.A. Piestrup, M.W. Powell, S. Mrowka, J.T. Cremer, L.W. Lombardo, M.B. Chase, D. Snyder, H. Rietdyk and X.K. Maruyama 145 (1998) 230
Development of a periodically structured monocrystalline target of Si for X-ray emission, K. Nakayama, M. Sekimura, I. Yanase, I. Endo, Y. Takashima, V. Kaplin and A. Potylitsin 145 (1998) 236
X-ray radiation and optics investigations at the YerPhI linac test facility (LTF), R.O. Avakian, K.A. Ispirian, E.M. Laziev, R.L. Mkrtchyan and V.Ts. Nikogosian 145 (1998) 239
X-ray production simulation of an electron beam recycled through a betatron's internal target, V.V. Kaplin, L.W. Lombardo, A.A. Mihal'chuk, M.A. Piestrup and S.R. Uglov 145 (1998) 244
Original and diffracted transition radiation for diagnostics of relativistic electron beams, V.V. Kaplin and S.R. Uglov 145 (1998) 253
Characteristic X-rays induced by electrons and positrons from β-emitting radioisotopes, M.A. Chesta, T.S. Plivelic and R.T. Mainardi 145 (1998) 459
The EM imaging reconstruction method in γ-ray astronomy, F.J. Ballesteros Roselló, F. Sánchez Martínez and V. Reglero Velasco 145 (1998) 469
Comparison of the least squares and the maximum likelihood estimators for gamma-spectrometry, V.A. Muravsky, S.A. Tolstov, A.L. Kholmetskii 145 (1998) 573

Letters to the Editor

Evaluation of non-Rutherford proton elastic scattering cross section for silicon, A.F. Gurbich 145 (1998) 578